Informativeness of Discretionary Disclosure of Goodwill Slack

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Abstract: Recently, the SEC's Division of Corporation Finance (CorpFin) has added an additional guidance to its Financial Reporting Manual (FRM) with respect to the disclosure for goodwill. For firms at a risk of failing the step one of goodwill impairment test, this guidance recommends that firms consider reporting the percentage by which the fair value exceeds carrying values of the reporting unit—slack—when the fair value is not *substantially in excess* of carrying value. This CorpFin guidance does not specifically identify what is meant by *substantially in excess.* We examine the consequences of this disclosure guidance and find evidence consistent with the FRM's perceived goal: investors and analysts seem to be able to better predict future goodwill impairments for firms disclosing lower slack levels. These results suggest that information conveyed through slack disclosures has led to an increase in the quality of information available to investors regarding future impairment of goodwill.

JEL classification: G19, D89, M40

Keywords: goodwill, impairment, disclosure

Data: Available from public sources identified in the text.

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1. Introduction

Recently there has been a significant increase in the frequency and dollar amount of goodwill impairments (Duff & Phelps 2012). In general, prior research shows that unexpected goodwill impairments result in stock price declines (Li et al. 2011). For example, in February of 2016, Yahoo! announced a $4.5 billion write-off of its goodwill balances. In response, Yahoo!'s stock price declined 5 percent, suggesting that this announcement was not fully anticipated by the market. As with all significant declines in stock price, market participants may have benefited from having higher quality information regarding Yahoo!'s expectation of future goodwill impairments. Standard goodwill disclosures may be informative; however, there is a lack of uniformity in the content and detail of such disclosures.[1] In response to this variability, the Securities and Exchange Commission's (SEC) Division of Corporation Finance (CorpFin) updated the Financial Reporting Manual (FRM) Section[2] 9510 (FRM Section 9510), expanding and clarifying the type of disclosures they expect.[3] The change recommends that companies report the percentage by which fair value exceeded carrying value (hereafter "goodwill slack") for reporting units whose fair value is not substantially in excess of carrying value. Goodwill slack represents a cushion against failing Step 1 of the goodwill impairment test. Therefore, the

[1]Anecdotally, there appears to be a significant amount of variation in what firms disclose in their goodwill footnotes. Some registrants disclose very little beyond mentioning lack of goodwill impairment in a particular year or discussing impairment charges, if any; others provide more information about goodwill valuation assumptions, etc.

[2] FRM represents non-authoritative guidance from the staff of the SEC's Division of Corporation Finance (CorpFin). Anecdotally, our understanding is that the SEC registrants and auditors are very sensitive to FRM disclosure recommendations. FRM starts by saying in part: "The information in this Manual is non-authoritative. If it conflicts with authoritative or source material, the authoritative or source material governs. The information presented also may not reflect the views of other Divisions and Offices at the Commission. The guidance is not a rule, regulation or statement of the Commission and the Commission has neither approved nor disapproved this information. The information included in this Manual may be updated from time to time and positions may change. As a result, the information in this manual may not be current". See: https://www.sec.gov/divisions/corpfin/cffinancialreportingmanual.shtml

[3]See slides from the 2009 AICPA Conference on SEC and PCAOB Developments here: https://www.sec.gov/news/speech/2009/spch120809wc.pdf (accessed on July 22, 2016).

higher the value of the observed goodwill slack, the lower the risk of future goodwill impairments. The expanded reporting recommendation for goodwill is consistent with the FRM's goal to enhance investors' ability to learn about the increased likelihood of goodwill impairments well in advance of the announced impairment. In this paper, we provide evidence on whether this perceived goal of the FRM is addressed with the expanded goodwill slack disclosures.

We begin our analysis by documenting the existence and frequency of goodwill slack disclosures for firms with *ex-ante* greater likelihood of having goodwill impairments. This is a necessary starting point because FRM Section 9510 recommends that registrants "*should consider*" providing slack disclosures for each reporting unit that is at risk of failing Step 1 of the goodwill impairment test. In other words, CorpFin appears to accept some variation in this disclosure decision. Thus, the degree of adherence with this disclosure recommendation and its information usefulness are unclear.[4] To address the latter concern further, we examine whether these disclosures actually predict future goodwill impairments. This test is important for two reasons. First, FRM does not explicitly define what is meant by "substantially in excess of carrying value;" thus, documenting the frequency of enhanced disclosures for goodwill provides us a relative benchmark for where the cutoff is. In extreme cases the reported goodwill slack disclosures may represent noise. Hence, it is unclear whether we should expect any meaningful cross-sectional variation in goodwill slack disclosures, as many firms could simply claim to reside in the "substantially in excess" category and not provide any numeric slack disclosures. Second, it is not obvious that goodwill slack disclosures provide incrementally useful information about future impairments beyond factors such as stock prices and earnings changes

[4] In spite of the discretionary manner in which the manual presents the expanded disclosure, CorpFin has engaged in a robust comment letter process requesting that firms disclose goodwill slack or explain why they are not including the disclosure. Moreover, publications by the Big 4 firms on goodwill appear to present the recommended disclosure of goodwill slack as if it were mandatory.

which have been shown in the literature to predict future goodwill impairment (Hayn and Hughes 2006; Tesyak 2012).[5] Therefore, we examine the association between goodwill slack disclosures and the likelihood of future impairments *after* controlling for indicators of future impairments that have been documented in the literature.

Focusing on the sample period between 2010 and 2013, we find that among firms with high *ex-ante* goodwill impairment risk, there is significant heterogeneity in the specificity and quantity of goodwill slack disclosures. This is not surprising given the lack of precise guidance as to what CorpFin intended by "substantially in excess" and "should consider providing disclosures" language in FRM Section 9510. Despite this variability, we do find that slack disclosures signaling low goodwill slack are associated with a greater likelihood of future impairments which is consistent with the intent of the expanded disclosure. With respect to the usefulness of slack disclosures to financial statement users, we find that the slack disclosures enhance users' ability to anticipate future goodwill impairments, as manifested by smaller negative stock price reactions to next year's goodwill impairment occurrences and in a higher likelihood of downward forecast revisions by analysts' for companies with low goodwill slack. Thus, our findings are in line with the CorpFin's rationale for requesting the consideration of the inclusion of slack disclosures for companies facing higher goodwill impairment risk.

Our paper contributes to the broad literature on the consequences of footnote disclosure. There is some prior evidence that more detailed or voluntary disclosures help reduce information

[5] The following quotation illustrates this notion well: "*It [data] indicates that in general, investors are aware of the issues that may lead to a subsequent impairment long before the actual impairment is taken,* Duff & Phelps director James Harrington said in a webcast devoted to the study results. Duff & Phelps, a financial advisory and investment firm, developed the study in partnership with FEI."
http://www.journalofaccountancy.com/news/2012/oct/20126575.html#sthash.Kc2QS03H.dpuf.

asymmetry and may result in a reduction in cost of capital.[6] However, given the sheer number of disclosures in and volume of 10-Ks, it is unclear whether an additional footnote disclosure will be helpful to investors. This is consistent with evidence in Francis et al. (2008) who find that voluntary disclosures do not reduce cost of capital beyond that of earnings quality (capturing mainly the effects of mandatory disclosure). Similarly, there is evidence that investors ignore important value-relevant footnote disclosure information.[7] Investors routinely complain about 10-K disclosure overload, and the SEC has begun a project to address with this concern (Monga and Chasan 2015). In response, we provide evidence that goodwill slack disclosures address the lack of information timeliness in goodwill impairment disclosures. Therefore, our paper has important implications for both academic research and practice.

2. Motivation and Hypotheses Development

Goodwill is recorded on the balance sheet when a business is acquired for a purchase price that exceeds the fair value of the target's identifiable net assets. Under present accounting rules (ASC Topic 350, formerly SFAS 142), goodwill is tested annually for impairment or when a triggering event occurs using a two-step process. In Step 1, the fair value of the reporting unit in which goodwill resides is compared to its carrying value. If the fair value is in excess of the carrying value there is no impairment. If carrying value exceeds fair value, the company will Step 1 and moves to Step 2 and measure the dollar amount of impairment. In 2012, FASB adopted a qualitative assessment for goodwill impairment which has become known as step zero as an alternative to the 2-step process. This method allows firms to determine if it is more likely

[6] Glosten and Milgrom (1985), Diamond (1985), Diamond and Verrecchia (1991), Welker (1995), Sengupta (1998), Verrecchia (2001), Healy and Palepu (2001), Core (2001), Heflin et al. (2005), Lambert et al. (2007).
[7] See, for example, Hirshleifer and Teoh (2003), Picconi (2006).

than not (i.e. more than 50 percent) that the fair value of the reporting unit exceeds its carrying value based on qualitative factors. If the company passes step zero the assessment process ends; otherwise the process moves on to Step 1.

Goodwill impairments are influenced by the valuation choices made by managers. The choices made by managers are critical in "borderline" cases where the company is in jeopardy of failing Step 1 of the impairment test.[8] Moreover, prior to the appearance of expanded FRM disclosures recommendations for goodwill slack, investors were unaware of the proximity of firm's fair values to carrying value. In response to this dearth of information, the CorpFin's FRM recommended that companies assess if the fair value of each reporting unit is "substantially in excess" of the reporting unit's carrying value. If the headroom is not substantial, the CoprFin's FRM recommends that managers *consider* disclosing the percentage by which the fair value exceeded the reporting unit's book value—goodwill slack. This measure is potentially more salient than valuation inputs in determining the likelihood and amount of a future impairment. The slack disclosure recommendation is codified in FRM Section 9510 which covers critical accounting estimates of SEC registrants. Specifically, FRM 9510.3 states (emphasis added)[9]:

*Registrants **should consider** providing the following disclosures **for each reporting unit that is at risk of failing step one** of the impairment test (defined in ASC Topic 350):*

a. The percentage by which fair value exceeded carrying value as of the date of the most recent test…

*…A reporting unit **may be at risk of failing step one** of the impairment test if it **had a fair value that is not substantially in excess of carrying value** as of the date of the last impairment test. **Whether or not the fair value was "substantially" in excess of carrying value is a judgment based on the facts and circumstances including, but not limited to, the level of uncertainty associated with the methods and assumptions used for impairment testing.***

[8] The accounting profession is keenly aware of how sensitive goodwill impairment testing could be as a result of assumption choices. For example, Deloitte published Gator Electronics Trueblood Case dedicated to this subject: http://www2.deloitte.com/content/dam/Deloitte/us/Documents/about-deloitte/trueblood/us-dfdtn-13-4c-gator-electronics-100614.pdf

[9] https://www.sec.gov/divisions/corpfin/cffinancialreportingmanual.pdf#topic9

Section 9510.4 further elaborates (emphasis added):

*A registrant **need not provide these disclosures if the registrant asserts and discloses that material goodwill does not exist at reporting units that are at** risk of failing step one or that no reporting units are at risk.*

For example, in its 2014 10-K filing, Yahoo! disclosed goodwill slack prior to taking a significant goodwill impairment announced in 2016, (emphasis added)[10]:

*We conducted our annual goodwill impairment test as of October 31, 2014 and determined that **the fair values of our reporting units, with the exception of (1) the Middle East and (2) India & Southeast Asia reporting units, exceeded their carrying values and therefore goodwill in those reporting units was not impaired.*** We concluded that the carrying value of each of the Middle East and India & Southeast Asia reporting units exceeded its fair value and recorded a goodwill impairment charge of approximately $79 million and $9 million, respectively**.** During 2013, we recorded a $64 million goodwill impairment charge for the Middle East reporting unit.

***For the Europe reporting unit, the percentage by which the estimated fair value exceeded the carrying value as of October 31, 2014 was 12 percent** and the amount of goodwill allocated to the Europe reporting unit was $465 million.*

In comparison, Yahoo! reported the following in their 2013 10-K (emphasis added)[11]:

*The Company conducted its annual goodwill impairment test as of October 31, 2013 and determined that the **fair values of its reporting units, with the exception of the Middle East reporting unit, exceeded their carrying values and therefore goodwill in those reporting units was not impaired.** The Company concluded that the carrying value of the Middle East reporting unit exceeded its fair value and recorded a goodwill impairment charge of approximately $64 million in the quarter ended December 31, 2013.*

One important difference between Yahoo!'s 2013 and 2014 goodwill slack disclosures is the inclusion of a numeric disclosure of goodwill slack of 12 percent for the Europe reporting unit in 2014. The goodwill of the European and U.S./Canadian reporting units were impaired in 2016 by $531 million and $3.3 billion.[12, 13] The question arises as to why goodwill slack was only

[10] https://www.sec.gov/Archives/edgar/data/1011006/000119312515066560/d826131d10k.htm
[11] https://www.sec.gov/Archives/edgar/data/1011006/000119312514077321/d636872d10k.htm
[12] https://www.sec.gov/Archives/edgar/data/1011006/000119312516483790/d12894d10k.htm
[13] The Yahoo! 2015 10-K reads as follows: "We concluded that the carrying value of our U.S. & Canada, Europe, Tumblr, and Latin America reporting units exceeded their respective estimated fair values and recorded a goodwill

disclosed for the European reporting unit and nothing for the U.S./Canadian unit. As evidenced in the 2013 and 2014 10-Ks, the value of the European reporting unit was deteriorating. However, what was not known by the market in 2013 and 2014 was if this apparent deterioration would lead to an impairment for Europe or other reporting units in the company.

As demonstrated in Yahoo!'s 10-K disclosures firms have significant discretion in determining whether they are at risk of impairment and therefore subject to recommended numeric slack disclosures. Moreover, while the CorpFin has chosen not to provide a bright line for the percentage of slack that translates into "substantially in excess," it did clarify that "the lower the percentage gets, the higher the risk of recording a future goodwill impairment and the more counterintuitive it would become to conclude that additional disclosure would *not* be necessary (KPMG 2009).[14] Thus, it is unclear whether firms will provide meaningful disclosures of slack when there is a risk of future impairment.[15]

The lack of a bright-line for slack disclosures complicates both the disclosure and interpretation of the disclosure and introduces opportunities for managerial manipulation. For example, management could opportunistically omit reporting goodwill slack or report inflated

impairment charge of approximately $3,692 million, $531 million, $230 million and $8 million, respectively" (https://www.sec.gov/Archives/edgar/data/1011006/000119312516483790/d12894d10k.htm).

[14] Furthermore, in the event that the goodwill slack is not substantial, the company is to treat the risk of impairment as a "known uncertainty" which requires compliance with Item 303 of Regulation S-K.[14] However, the determination of substantial is "a *judgment based on the facts and circumstances* including, but not limited to, the level of uncertainty associated with the methods and assumptions used for impairment testing" (FRM Section 9510.3, emphasis added).

[15] A conversation with one senior partner in a valuation consulting firm suggested that a 10% threshold in his mind satisfies the definition of substantial excess. Another senior principal indicated that 40% slack corresponds to "substantial excess." Some 10-K filings we examined seem to suggest that firms view a 20% threshold as being the lower bound of substantial excess. SEC staff members appear to suggest that the expanded disclosures should be made when "indicators of impairment appear to exist (e.g. book value greater than market capitalization). In other words, if it is unclear why an impairment is not recorded, additional disclosures are warranted" (2010 AICPA National Conference on Current SEC and PCAOB Developments). Presumably, this is because the CorpFin wants investors to be able to better anticipate future impairment losses, provided they are expected to be material. During a discussion session, SEC staffers reviewed several scenarios where the fair value of a reporting unit exceeded its carrying value by 1 to 20 percent. A question was asked during the Q&A regarding how a registrant would determine whether the fair value of a reporting unit is "substantially in excess" of its carrying value. SEC staffer Mark Kronforst responded that there is no *bright line* test and that judgment should be applied (KPMG, 2009, page 31).

slack by choosing a more optimistic set of assumptions. This is consistent with evidence documented in the literature in which managers manipulate assumptions opportunistically to derive favorable accounting outcomes such as with expected returns on pensions assets (Bergstresser et al. 2006) or estimates of bad debts (Jackson and Liu 2010). Similarly, managerial manipulation may result in the favorable disclosure of goodwill slack.

Prior to the existence of slack disclosure, the extant literature has found that goodwill impairment announcements can be predicted from other public information. In particular, economic characteristics at acquisition and subsequent stock and accounting performance data may be used to predict future impairments (Gu and Lev 2011; Hayn and Hughes 2006; Jarwa 2009; Olante 2013). This relation has only increased under the current 2-Step goodwill impairment regime relative to the historic goodwill amortization methodology (Li and Sloan, 2015). Therefore, incremental usefulness of the goodwill slack disclosures beyond publicly available information is unclear. We conjecture that goodwill slack disclosures that signal an increase in the likelihood of a future goodwill impairment provide useful information to market participants beyond that of other public information. This leads us to our first hypothesis which is as follows:

> *Hypothesis 1: Goodwill slack disclosures indicating an increase in impairment risk provide incrementally useful information.*

Prior research indicates that despite the lack of timeliness of goodwill impairment announcements, there is still a component of the impairment that is unpredictable. Following goodwill impairments, the market reacts negatively (Bens et al. 2011; Li et al. 2011) and analysts revise their forecasts downwards (Li et al. 2011). In addition, goodwill impairments are associated with future declines in accounting performance including future cash flows (Jarwa 2009; Lee 2011). Overall, the research findings demonstrate that there is an aspect of goodwill

impairment that is not anticipated and that the impairment announcement itself provides information to the market regarding declines in future performance that is incremental to other public information. Higher quality disclosures "bring the future forward" (Lundholm and Myers 2002) and more informative disclosures lead to more accurate analyst forecasts (Hope 2003). Therefore, it is our belief that the disclosure of goodwill slack is a signal of an increase in the likelihood of a future goodwill impairment. If our conjecture is true, we should observe a decline in share price and in analyst forecast revisions in response to the disclosures of low levels of slack. This leads to following hypothesis:

> *Hypothesis 2: Disclosures of lower levels of goodwill slack will lead to lower levels of market declines when goodwill impairments are announced.*

Prior research has documented that analyst following positively influences the association of actual and expected impairments (Ayres et al. 2015) and that their forecasts are less accurate and more disperse for firms reporting goodwill impairments (Chen et al. 2014). This suggests that analysts do not efficiently incorporate information about future impairments into their forecasts. If slack disclosures are effective in bringing goodwill impairment information forward in time, one might expect it to provide analysis with the information needed to adequately incorporate anticipated impairment events into their forecasts. This leads to our third and final hypothesis:

> *Hypothesis 3: Disclosures of lower levels of goodwill slack will lead to greater likelihood of downward revisions in analysts' forecasts.*

3. Empirical Analyses

3.1. Sample Construction

The FRM Section 9510 states that slack disclosures are recommended for firms at risk of failing Step 1 of the impairment test. To assess the value of the slack disclosures we begin by identifying a sample of firms that are likely to have a high impairment risk as a function of

public signals of impairment that have been documented in the literature (Ramanna and Watts 2012; Beatty and Weber 2006). Next, we hand-collect slack disclosure data for these companies. Our sample period is from 2010 to 2013 as the FRM Section 9510 on slack disclosures was updated toward the end of 2009. We end our sample period in 2013 because we use 2014 impairment data to conduct tests of future impairment.

We estimate a prediction model of year t+1 goodwill impairments by running a probit regression for the *whole population* of firms in Compustat with available data between 2010 and 2013. The objective of this regression is to estimate the implied probability of next period goodwill impairment (essentially a summary measure of ex-ante impairment risk) on the basis of current year information. The model we use is the following:

$$Prob\ (IMPAIR_{t+1} = 1) = \alpha_0 + \alpha_1 * ROA_t + \alpha_2 * FIRM\ SIZE_t + \alpha_3 * BM_t + \alpha_4 * BHAR_2 + \alpha_5 * BGI_t + \alpha_6 * GOODWILL_t + \alpha_7 * INFOASY_t + \alpha_8 * RD\_INT_t + \alpha_9 * EXCHG + \alpha_{10} * ASSETPRC_t + \alpha_{11} * SEGMENT_t + \alpha_{12} * VNA_t + \alpha_{13} * LEV_t + \alpha_{14} * LITIGATE_t + \alpha_{15} * BIG4_t + \alpha_{16} * FIXED\ ASSETS_t + \alpha_{17} * Age_t + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + e_t \quad (1)$$

where $IMPAIR_{t+1}$ is an indicator variable equal to one if the firm incurs a goodwill impairment in year t+1 and zero otherwise. The determinants are selected from prior literature and have been shown to be related to future goodwill impairments (Ramanna and Watts 2012; Beatty and Weber 2006). We include these variables so long as they do not unduly restrict the sample size or duplicate the effects of other included variables.[16]

To capture the effects of firm performance on goodwill impairment risk, we control for return on assets (*ROA*), firm size (*FIRM SIZE*), book-to-market (*BM*), and CRSP value-weighted abnormal stock return for year t (*BHAR*). We also estimate *BGI*, which is an indicator variable

[16] This is the reason we do not control for net insider buying, CEO-compensation-based variables, existence of debt covenants from Ramanna and Watts (2012) or Beatty and Weber (2006). These variables do not significantly affect goodwill impairment and it reduces sample size.

equal to one when book value exceeds market value and zero otherwise (Ramanna and Watts 2012). To capture the economic magnitude of possible goodwill impairment, we include goodwill ratio of goodwill to total assets (*GOODWILL*). Both Beatty and Weber (2006) and Ramanna and Watts (2012) consider several managerial incentives to manage goodwill impairments. *INFOASY* equals one if a firm reports positive net share repurchases and zero otherwise. This variable is designed to capture managers' private information regarding their future prospects since goodwill impairment is less likely to occur when managers have favorable private information about firms' future cash flows (Ramanna and Watts 2012). In addition, we control for Research and Development Intensity (*RD_INT)*, which is a measure of managers' private information about a firm's future performance. Beatty and Weber (2006) found that NASDAQ and American Stock Exchange (AMEX) have objective delisting requirements including a company's net worth which may reduce the likelihood of the taking an impairment. Therefore, we include variable *EXCHAGE*, an indicator variable equal to one for companies listed on the NASDAQ or American Stock Exchange (AMEX) and zero otherwise. Another incentive that may affect a firm's decision to take goodwill impairment loss is driven by the valuation motive as reflected by stock price sensitivity to earnings news. The higher the sensitivity of stock returns to reported earnings, the lower the managerial propensity to record losses. Hence we control for *ASSETPRC,* which is measured using the R^2 from a time series regression of quarterly price per share on earnings from continued operations, computed over the period of 20 quarters prior to the end of year t. [17] Ramanna and Watts (2012) argue that in addition to having the *motives* to manage impairment losses, firms must have the *reporting*

[17] Ramanna and Watts (2012) use the coefficient on earnings in the regression price on earnings to construct this variable. However, we note that for some firms this coefficient turns negative. Hence, we use R^2 instead to capture the value relevance of earnings.

flexibility to do so. Thus, we include the number of segments (*SEGMENT*) as a proxy for the number of reporting units: The larger the number of segments, the more opportunities a manager has to either accelerate the goodwill impairment by allocating goodwill to poor performing reporting unit or delay goodwill impairment by allocating goodwill to good performing reporting unit. *VNA* measures the verifiability of assets, defined as the ratio of [cash + investments and advances-debt-preferred equity] over [assets-liabilities] (Ramanna and Watts 2012). This variable is intended to capture the component of net assets whose fair values are most likely verifiable (Richardson et al. 2005). When assets are more verifiable, managers have less discretion in manipulating their values and it is more difficult to delay goodwill impairments. Finally, we include additional firm characteristics that may also contribute to managerial decisions in regards to goodwill impairment loss. The ratio of total long-term debt to market value of equity (*LEV*) is a proxy for credit risk; *LITIGATE* as an indicator variable equal to one for companies in high litigation risk industries and zero otherwise (Francis et al. 1994) to proxy for the likelihood of the company to disclose an impairment; *BIG4* is included an indicator variable equal to one if a firm is audited by a Big 4 audit firm because prior research shows that auditor type affects the occurrence of an impairment (Lobo et al. 2015); the ratio of fixed assets to total assets (*FIXED ASSETS*) is included, since the firms with more extensive *FIXED ASSETS* may have more financial constraints; the age of the company (*AGE*) is included to control for the effects of a firm's life-cycle on financial constraint (Hadlock and Pierce, 2010). We provide a detailed description of these variables in Appendix A. We winsorize all of the continuous variables at their 1st and 99th percentiles to mitigate the influence of potential outliers. We also cluster-adjust all test statistics by firm and year (Gow et al. 2010) and include industry and year fixed effects in all regression models.

We estimate equation (1) for the population of US companies in Compustat from 2010 to 2013 that satisfy the sample restrictions we describe below. Our sample procedures are described in Panel A of Table 1. First, we restrict our sample to companies with non-zero goodwill. Next, we rank our observations based on goodwill as the percentage of total assets and retain all companies above the median. These screens result in a sample of 4,544 observations (See results of equation (1) in Appendix B). For all firm years in the top 25th percentile of the distribution of the estimated ex-ante impairment probability, we hand-collect the goodwill slack disclosure data from their annual reports. In an effort not to contaminate our slack disclosure years, we eliminate firm years that experienced a goodwill impairment in the current year.[18] The final sample contains 791 observations which is labeled Sample A. The distribution of Sample A by year is reported in Panel B of Table 1. The distribution of our sample by year is reasonably consistent save for a slight decline in 2013. Panel C of Table 1 provides the number of slack disclosures in our sample by degree. The disclosures vary from no disclosure to a specific percentage, and qualitative assessments such as "substantially in excess."[19] Since we are interested in the information conveyed from the slack disclosure, we identify the group of disclosures that are more likely to indicate an increased risk of impairment. Specifically we identify a group of SUSPECT firms as those firms with less than 10% of headroom and those that disclose that they are "very close to carrying value" (coded 2 and 7). We note in Panel D of Table 1 that 93 of our firms are identifies as SUSPECT firms which is about 12% of our sample.[20]

[18] Compustat data item GWLIP (or GWLIPQ) is designed to capture the goodwill impairment through reading a company's 10-K filings (or 10-Q filings). In some cases, Compustat may code a firm to have goodwill impairment when actual impairment is only related to intangibles other than goodwill. To ensure data accuracy, we manually verify each filing.

[19] Firms that do not disclose anything about slack are deemed to have slack that is "substantially in excess" which is consistent with the CorpFin's recommendation to disclose only if slack is not "substantially in excess".

[20] As discussed earlier, we are not aware of any explicit definition of lack of "substantially in excess." However, our discussions with practitioners seem to indicate that 10% is a conservative bound for "substantial excess."

Panel E of Table 1 provides descriptive statistics for Sample A. We note that on average 20% of our firms experience an impairment the following year ($IMPAIR_{t+1}$). This is not surprising as our sample is constructed to contain firms with greater goodwill impairment risk. In comparison our initial population of 4,544 observations experiences a 14% impairment rate in year t+1. The mean ROA in our sample is 0.00, which is consistent with prior work. The mean BHAR is -7%, which suggests that our sample is populated with under-performing firms. Approximately 37% of our sample firm years are listed on the NASDAQ or AMEX. The average ratio of goodwill to total assets (*GOODWILL*) is 27% which is higher than normal due to our sample selection procedures. With average BM at less than 1 (0.887), our sample appears to populated with growth relative to value firms.

3.2 Future Impairment Prediction

First, we address hypothesis 1 by investigating whether slack disclosures have information content regarding future goodwill impairments that is incremental to other indicators of future impairments such as declining accounting and stock price performance. We model the likelihood of a next year impairment as a function of slack disclosure degree (*SUSPECT*) to provide evidence of the incremental informativeness of the disclosure. Specifically, we test whether *SUSPECT* firm years are more likely to experience future goodwill impairments (hypothesis 1). In this model, we control for a summary measure estimating the ex-ante probability of impairment (*PGI*), where *PGI* is the predicted probability of subsequent year goodwill impairment based on equation (1). The model we estimate to test hypothesis 1 is:

$$Prob\ (IMPAIR_{t+1} = 1) = \beta_0 + \beta_1 * SUSPECT_t + \beta_2 * PGI_t \qquad (2a)$$

In addition, we expand equation (2a) using variables from equation (1) that are related to the likelihood of a next period goodwill impairment.

$$Prob\ (IMPAIR_{t+1} = 1) = \beta_0 + \beta_1 * SUSPECT_t + \beta_2 * ROA_t + \beta_3 * FIRM\ SIZE_t + \beta_4 * BM_t + \beta_5 * BHAR_2 + \beta_6 * BGI_t + \beta_7 * GOODWILL_t + \beta_8 * INFOASY_t + \beta_9 * RD\_INT_t + \beta_{10} * EXCHG + \beta_{11} * ASSETPRC_t + \beta_{12} * SEGMENT_t + \beta_{13} * VNA_t + \beta_{14} * LEV_t + \beta_{15} * LITIGATE_t + \beta_{16} * BIG4_t + \beta_{17} * FIXED\ ASSETS_t + \beta_{18} * Age_t + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + e_t \quad (2b)$$

In estimating these equations, we cluster-adjust the t-statistics at the firm and year levels and include industry and year fixed effects in the model.

Regression estimates of equations (2a) and (2b) are reported in Table 2. In both specifications, the coefficient on *SUSPECT* (*p*-value < 0.01) is significantly positive. The coefficient is 0.61 and 0.59 in equations 2 and 2b, respectively. Our findings are consistent with hypothesis 1 in that slack disclosures which indicate an increase in impairment risk (SUSPECT) are informative. The summary measure of future impairment, *PGI*, is also significantly positive, indicating that it is a leading indicator of goodwill impairments. In addition, we find that poor performance is related to the likelihood of future impairment (*BHAR*). Consistent with Ramanna and Watts (2012), the coefficient of *BGI* is positive and significant, suggesting that when firms' market value is already below the book value, the chance of future goodwill impairment is higher. Lastly, the coefficient on fixed-assets is negative and significant, indicating that the occurrence of a goodwill impairment is lower when a firm has higher long-term tangible assets.

4. Other Consequences of Slack disclosures

4.1 SUSPECT Firms and Investors' Ability to Anticipate Future Impairments

We have established that companies that disclose goodwill slack of 10% or less (SUSPECT) are significantly more likely to have a goodwill impairment in the next year compared to other companies that carry goodwill on their books (hypothesis 1). In this section, we further investigate the effect that the disclosures of low levels of slack have on the market (hypothesis 2). If slack disclosures act as credible signals of future goodwill impairments, then

the market should imbed the increased risk of impairment into firm value in expectation. When an impairment occurs for a *SUSPECT* company, the market will not be completely surprised, rather the market will resolve the uncertainty it had regarding the event. The resolution of expected events—firms that have previously reported low levels of slack—should result in market reactions that are attenuated relative to unexpected events—firms that have no prior disclosure or slack that is "in excess". Empirically, we cannot isolate the market reaction to the slack disclosures that are embedded in the 10-K with other information. However, following prior research, we can capture the resolution of market uncertainty regarding an expected impairment. Therefore, we design our test to capture the resolution of uncertainty which comes when the impairment actually occurred.

One particular challenge in conducting this analysis is that it is not known *ex-ante* when a firm would report a future impairment. It could happen in year t+1 or beyond. One possible way to address this is to consider future impairments over a longer window, say 1-3 years. However, window length becomes arbitrate and we run the risk of picking up different slack disclosure degrees within longer windows. Thus, we opt to look for impairments one year in advance to avoid overlapping disclosures. We focus on earnings announcements dates for quarters where goodwill impairments are announced as a proxy for goodwill impairment announcement date. For the majority of the firms in our sample (66%) the date of their announcement impairment coincides with that of their quarterly earnings announcement. To the extent that the impairment announcement occurred on a different date, our construction would bias against our finding a result.

To conduct this analysis, we collect all U.S. companies in Compustat with reported impairments during our 2010-2013 sample period. We eliminate all observations that have

missing PERMNO. Because the impairment code in Compustat indicates impairments of goodwill and other long lived assets, we verify that a goodwill impairment has occurred by reading the related footnote. (see footnote 20). We remove all firms that have a goodwill impairment in years t and t+1 to avoid contaminating our sample. We also delete observations with missing stock return data and financial variables that are needed to estimate or model. This results in a final sample of 499 observations. The sample selection procedure is summarized in Panel A of Table 3. The annual frequency of impairments is reported in Panel B. They appear to be equally distributed across the sample period. The types of slack disclosures for the sample are reported in Panels C and D of Table 3. Out of the 499 firm-year observations from 2010 to 2013, 78 (16 percent) report slack classified as *SUSPECT* (i.e. slack below 10% or slack which is qualitatively stated to be very close to carrying value).

Panel E of Table 3 provides descriptive statistics for our subsamples of *SUSPECT* and *non-SUSPECT* firms. The median goodwill impairment *(IMPAMT)* represents about 3.5 percent of total assets for SUSPECT=1 firms and 2.0% for SUSPECT=0 firms. We estimate the unexpected goodwill impairment amount using both a Tobit and an ordinary least square (OLS) regression model. The model specifications are provided in Appendix C. The unexpected goodwill measure accounts for the public information that prior research has shown to be indicators of future impairments. We measure goodwill impairments as a negative number. The unexpected goodwill impairment from the Tobit (OLS) model is approximately -4.7%(-3.9%) and -4.0% (-3.4%) of total assets for *SUSPECT* and *non-SUSPECT* firms, respectively. A negative (positive) unexpected goodwill impairment number implies that the actual recorded impairment amount was above (below) the expected amount; thus more negative (positive) unexpected goodwill impairment numbers implies a bad (good) news event. The mean three-day

(five-day) abnormal return for *SUSPECT* and *non-SUSPECT* firms is -0.5%(-0.8%) and -2.1%(-2.3%), respectively. This indicated that the market reaction to goodwill impairments of *SUSPECT* firms is smaller than that on the comparison group.

We provide additional insight into the role of slack disclosures by capturing the ability of the *SUSPECT* disclosers to credibly signal future goodwill impairments using the following model which we estimate using OLS:

$$CARX_{t+1} = \gamma_0 + \gamma_1 * UNGWF1\_X_{t+1} + \gamma_2 * UE_{t+1} + \gamma_3 * SUSPECT_t + \gamma_4 * UNGWF1\_X_{t+1} * SUSPECT_t + \gamma_5 * RUNUP_{t+1} + \gamma_6 * LMV_{+1} + \gamma_7 * BM_{t+1} + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + e_t \quad (3)$$

where $CARX_{t+1}$ is either the three-day (CAR3) or five-day (CAR5) abnormal stock return around the year t+1 earnings announcement date.[21] *UNGWF1_X* is either *UNGWF1_TOBIT* or *UNGWF1_OLS*, and is defined as the unexpected impairment amount estimated from the TOBIT or OLS model of unexpected goodwill impairment (See Appendix C). Because more negative (positive) unexpected goodwill impairment is bad (less bad) news, we expect the coefficient on γ_1 to be significantly positive. *UE* is the contemporaneous quarterly earnings surprise defined as the difference between actual and consensus analyst forecasts from IBES.[22] We expect the coefficient on *UE* to be positive consistent with prior research on earnings response coefficients. *SUSPECT* is as previously defined. *RUNUP* is the cumulated stock returns over 20 trading days

[21] We use earnings announcement date for the quarter in which a goodwill impairment actually occurred to proxy for the announcement of a goodwill impairment since goodwill impairment charge often announced concurrently with the earnings announcement.

[22] Ideally, it is desirable to remove the goodwill impairment amount from actual earnings in order to capture earnings surprises other than goodwill impairment. However, IBES's actual earnings do not necessarily match firms' reported earnings. Therefore we choose not to adjust goodwill impairment out of the actual earnings. Alternatively, instead of using analysts' consensus forecasts as the expected earnings, we use the prior quarter's (if goodwill impairment occurs in quarters 1 to 3) or the prior year's earnings before the extraordinary item (if goodwill impairment occurs in quarter 4) as the expected earnings. And we use the current quarter's (if goodwill impairment occurs in quarter 1 to 3) or the current year's earnings before the extraordinary item (if goodwill impairment occurs in quarter 4) as the realized earnings to calculate the unexpected earnings surprise. Our results remain similar. The advantage of this method is that we are able to restrict the earnings surprise by removing the goodwill impairment component. The disadvantage is that using the prior year's earnings as the expectation may not be as good as consensus analyst forecasts.

prior to the earnings announcement day. We include this variable to control for public information available prior to a goodwill impairment announcement. *LMV* is the natural log of the market value of equity and *BM* is the ratio of book value to market value. We interact *SUSPECT* with the unexpected component of the goodwill impairment. If our conjecture that *SUSPECT* firms have attenuated market reactions to their announced goodwill impairments is true (hypothesis 2), the coefficient on γ_4 should be significantly negative.

The estimation of equation (3) is reported in Table 4. Consistent with evidence that has been documented in prior literature (e.g. Li et al 2011), we find that the coefficients on earnings surprises and unexpected goodwill impairment are positive, suggesting that investors react favorably when there are positive earnings surprises and smaller than expected goodwill impairments. More importantly, we find evidence consistent with hypothesis 2 that, for both three- and five-day abnormal stock returns around an earnings announcement, the coefficient γ_4 is significantly negative in both the OLS (p-value < 0.01) and Tobin (p-value< 0.05). Thus, our results support the notion that the disclosures of *SUSPECT* firms (reporting low goodwill slack) enable market participants to better anticipate future impairments.

4.2. Analysts' Estimates of Information Contained in Suspect Slack Disclosures

In hypothesis 3, we predict that the revisions of analysts will be influenced by the disclosures of SUSPECT firms. That is, disclosures of lower slack may enable analysts to better anticipate future impairments which result from deteriorations in value. To determine if this is the case, we examine the effect of year t slack disclosures on closely timed analyst revisions of year t+1 earnings. We expect that forecast revisions of year t+1 earnings issued after year t's 10-K filings

will be lower than the corresponding earnings forecast outstanding before 10-K filings for *SUSPECT* firms. To examine this conjecture, we estimate the following model:

$$Prob\ (NEG\_REVISION_{t+1} = 1) = \delta_0 + \delta_1 * SUSPECT_t + \delta_2 * UE_t + \delta_3 * LOGNA_t + \delta_4 * PGI_t + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + e_t \quad (4a)$$

where *NEG_REVISION* equals one if the consensus IBES forecast of year t+1 earnings reported immediately after year t's 10-K filing date is lower than the closest corresponding consensus forecast outstanding before year t's 10-K filing date. *LOGNA* is the natural log of the number of analysts issuing earnings forecasts for year t+1 within 90 days of 4th quarter earnings announcement of year t. We control for *PGI* in order to test whether or not the information in the goodwill slack disclosures is publicly known information. The other variables in equation (4a) have been previously defined. We augment equation (4a) by replacing PGI with control variables that capture impairment risk from equation (1).[23]

$$Prob\ (NEG\_REVISION_{t+1} = 1) = \delta_0 + \delta_1 * SUSPECT_t + \delta_2 * UE_t + \delta_3 * LOGNA_t + \delta_4 * ROA_t + \delta_5 * FIRM\ SIZE_t + \delta_6 * BM_t + \delta_7 * BHAR_t + \delta_8 * BGI_t + \delta_9 * GOODWILL_t + \delta_{10} * INFOASY_t + \delta_{11} * RD\_INT_t + \delta_{12} * EXCHG_t + \delta_{13} * ASSETPRC_t + \delta_{14} * SEGMENT_t + \delta_{15} * VNA_t + \delta_{16} * LEV_t + \delta_{17} * LITIGATE_t + \delta_{18} * BIG4_t + \delta_{19} * FIXED\ ASSETS_t + \delta_{20} * AGE_t + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + e_t \quad (4b)$$

If slack disclosures are indeed useful to analysts in predicting future impairments, then consistent with hypothesis 3, analysts' revisions should be downward—δ_1 will be significantly positive. Documenting this result would indicate that after controlling for other available information regarding future goodwill impairment from year t, *SUSPECT* goodwill slack disclosures contribute to analyst expectations regarding future firm performance.

[23] As opposed to the CAR test, where we control for *unexpected* impairment (which already accounts for the other determinants of impairment), in the analyst revision test, we are testing the effects of the disclosure in year t's 10-K filing date. Because year t+1 has not occurred yet, we cannot generate unexpected goodwill impairment. This necessitates controls for other determinants of goodwill impairment.

The sample selection for this test is similar to the sample selection for the stock market reaction test in Section 4.1.[24] The results from estimating equations (4a) and (4b) are reported in Table 5. The coefficient on *UE* is significantly negative in both specifications, indicating that positive (negative) earnings surprises in year t lead to upward (downward) analyst revisions for year t+1. The evidence related to *SUSPECT* firms provides some support for hypothesis 3, that analysts revise their earnings forecasts downward following the disclosures of the goodwill slack by *SUSPECT* firms. The reduced form model is reported in Column 1 where the coefficient on *SUSPECT* is 0.38 (*p*-value = 0.04, one-tailed test). In Column 2, our expanded model, the coefficient on *SUSPECT* is weakly positive at the 10% level (*p*-value = 0.09, one-tailed test). Taken together our analysis provides moderate evidence that analysts revise their forecasts downward for *SUSPECT* firms.

4.3. Additional Analysis:

4.3.1 Are Goodwill Slack Disclosures Opportunistic?

Our analyses provide evidence that slack disclosures are helpful in predicting impairments incremental too other publicly available information. Moreover, our analyses of stock market reactions to future goodwill impairments suggest that slack disclosures allow investors to impound information about future impairments earlier. The implicit assumption in our paper is that the goodwill slack disclosures reflect unbiased managerial beliefs about future goodwill impairments. However, it is possible that our results reflect strategic managerial decisions. Specifically, managers may choose to disclose low goodwill slack rather than

[24] We apply the same sample selection procedure as in the investors' reaction to an unexpected goodwill impairment announcement (Section 4.1) except for the last step. In the last step, we remove firm-years with missing analyst forecasts before and after 10-K filing dates and missing financial control variables that are needed to conduct multivariate analysis of analyst forecast revisions. Our final sample consists of 486 firm-year observations.

recording goodwill impairments in the current period. Gaming of this nature would be consistent with prior research on accounting estimates that suggests that managers opportunistically manipulate assumptions in accounting estimates (e.g. Bergstresser et al. 2006; Picconi 2006; Jackson and Liu 2010). In this setting, choosing to report slack disclosure rather than an impairment is preferred as it may protect firms against future litigation for failure to inform the market of a likely impairment (Skinner 1994). Thus, if managers have incentives to avoid goodwill impairment charges, they could elect to make small slack disclosures instead of taking an impairment. Gaming of this type does not invalidate our findings regarding the informativeness of slack disclosures. One likely reason for why a firm would choose to avoid taking an impairment in year t is to avoid the effect that the impairment would have on earnings. To explore this possibility, we proxy for managerial opportunism by estimating the probability of meeting-or-beating (MBE) analyst forecasts.[25] By estimating the following equation we document the relation between the disclosure of SUSPECT firms and managerial opportunism:

$$Prob\ (MBE_t = 1) = \lambda_0 + \lambda_1 * SUSPECT_t + \lambda_2 * LMV_t + \lambda_3 * BM_t + \lambda_4 * LOSS_t + \lambda_5 * ROA_t + \lambda_6 * SALEGR_t + e_t \quad (5)$$

where *MBE* is a dichotomous variable equal to one when the IBES Actual EPS figure exceeds the consensus IBES analyst forecasts in the 90 days before the earnings announcement date.. *LOSS* is a dichotomous variable equal to one if the IBES actual EPS figure is negative and zero otherwise. *SALEGR* is the change in revenue over the prior year. The other variables have been previously defined.

Our results from estimating Equation (5) are in Table 6. Contrary to our expectation we find that the likelihood of *MBE* is *negatively* associated with *SUSPECT* (the coefficient λ_1 is

[25] Starting with Bartov et al. (2002), multiple studies have used meeting-or-beating of analyst forecasts as a proxy for higher managerial incentives to manipulate accounting information. Other examples of this approach can be found in Hribar et al. (2006) and Gunny (2010), among others.

negative and significant, *p*-value = 0.03). In other words, *SUSPECT* firms are *less* likely to meet-or-beat expectations, which is not consistent with the possible opportunistic motive of reporting smaller slack numbers. However, the disclosure of slack by *SUSPECT* firms is more likely to accompany a contemporaneous deterioration of firm performance. Our finding provides evidence that reported slack numbers are more likely to represent unbiased managerial beliefs about goodwill impairment risk.

4.3.2. Differentiating Between Slack Degree

Our analyses so far have focused on comparing firm-years with low goodwill slack disclosures (*SUSPECT*=1 if code=2 or 7 in Panel D of Table 1) to non-*SUSPECT* firms (all other firm-years in the sample). Firm-years in the latter category combine observations with reported slack in excess of 10%, firms that do not disclose any information about their goodwill slack or firms that disclose that they are in "substantial excess". Ex-ante, we do not have a theory that would distinguish between the latter three types of disclosure degree because the CorpFin does not provide a quantitative definition for "substantially in excess". For example, a firm that "says nothing" may have a low slack number that it does not want to report or it may have a large slack number and is thus not encouraged to report under the FRM's disclosure recommendation. In contrast, firms may choose to signal high goodwill slack in order to differentiate from being silent about their goodwill slack. To determine if our reported results are unduly influenced by the classification of the non-suspect firms, we narrow our analyses to focus on comparing *SUSPECT* firms with firms that disclose no information about goodwill slack. Our untabulated findings are quantitatively similar to the results reported in Tables 2, 4, and 5.

5. Conclusion

The CorpFin's FRM recommended expanded disclosures for goodwill in 2009 to include the percentage by which the fair value of a reporting unit exceeded its carrying value for when the headroom was not "substantially in excess". However, FRM did not provide a quantitative definition for what is meant by "substantially in excess" which has left companies, investors and others without a clear set of directions and expectations. The opacity of this recommendation has led to significant heterogeneity in goodwill slack disclosures. Within the uncertainty of the disclosure we investigate if slack disclosures that appear to indicate an increase in the likelihood of a future impairment are informative to market participants. We find that "high impairment risk" slack disclosures (*SUSPECT*=1) are associated with a higher likelihood of future impairments and better informed market participants—investors and analysts. Slack disclosures appear to successfully bring information regarding goodwill impairment forward in time which appears to be the goal of the expanded disclosure. Our findings support the notion that disclosing early indicators of low goodwill slack are useful to the users of financial information.

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Appendix A: Definition of Variables

Variables	Definition
Key Variables:	
$SUSPECT_t$	A dichotomous variable equal to one if a firm reports SLACK of less than 10% or very close to carrying value of the reporting unit in its 10-K goodwill footnote; zero otherwise.
$IMPAIR_{t/t+1}$	A dichotomous variable equal to one if a firm reports a goodwill impairment in year t/t+1; zero otherwise.
$CAR3\ (5)_{t+1}$	Abnormal stock return around earnings announcement date cumulated from one trading day prior until one (three) trading days after earnings announcement. Abnormal returns are calculated using value-weighted CRSP benchmark return.
MBE_t	A dichotomous variable equal to one when IBES actual EPS figure exceeds the consensus IBES analyst forecasts, where consensus analyst forecasts is defined by the median of the last forecasts made by all analysts within 90 days before earnings announcement for year t.
$NEG\_REVISION_{t+1}$	A dichotomous variable equal to one if a firm experiences a downward revision in consensus analyst forecasts for year t+1 after release of year t's 10-K; zero otherwise, where consensus analyst forecasts before 10-K is defined by the median of the last forecasts made by all analysts within 90 days before 10-K release and consensus analyst forecasts after 10-K is defined by the median of the first forecasts made by all analysts within 90 days after 10-K release.
Control Variables (in alphabetical order)	
AGE_t	Natural log of a firm's age based on the start date of the price date on CRSP.

$ASSETPRC_t$	The R^2 from a time series regression of quarterly price per share on earnings from continued operations (IBQ) per share, computed over the period of 20 quarters prior to the end of year t.
$BHAR_t$	Abnormal returns are calculated using monthly value-weighted CRSP benchmark return compounded over the fiscal year t.
$BIG4_t$	A dichotomous variable equal to one if a firm has a Big 4 auditor; zero otherwise.
BGI_t	A dichotomous variable equal to one if market-to-book ratio (CSHO*PRCC_F)/CEQ) at the end of year t <1; zero otherwise.
BM_t	Book-to-market ratio (CEQ/CSHO*PRCC_F) at the end of year t.
$EXCHG_t$	A dichotomous variable equal to one if the firm trades on either the NASDAQ or the AMEX; zero otherwise.
FIRM $SIZE_t$	Natural log of market value of equity (PRCC_F*CSHO) measured in the end of year t+1; zero otherwise.
FIXED $ASSETS_t$	Ratio of fixed assets divided by total assets in year t.
$IMPAMT_{t+1}$	Amount of goodwill impairment charge in year t+1 divided by total assets at the end of year t. This variable is used to calculate the unexpected goodwill impairment amount in Appendix C.
$GOODWILL_t$	Ratio of total goodwill (GDWL) to total assets (AT) at the end of year t.
$INFOASY_t$	A dichotomous variable equal to one if a firm reports positive net share repurchases; zero otherwise.
LEV_t	Ratio of total long-term debt (short+long term portion) (LT) to market value of equity ((dlc+dltt)/(CSHO*PRCC_F) at the end of year t.
$LITIGATE_t$	A dichotomous variable equal to one if the firm falls into a high litigation risk industry as defined by Francis et al. (1994); zero otherwise.
$LOGNA_t$	Natural log of number of analysts issuing forecasts during 90 days prior to year t earnings announcement.
PGI_t	Ex-ante probability of impairment calculated from equation (1).

RD_INT_t	Ratio of Research and Development (XRD) to sales (SALE) at the end of year t. When XRD is missing, it is set to zero.
ROA_t	Ratio of income before extraordinary item (IB) measured at the end of year t.
$RUNUP_{t+1}$	Accumulated daily abnormal stock return over 20 trading days prior to until 2 trading days prior to the goodwill impairment announcement.
$SEGMENT_t$	Natural log of number of business segments (sum of business segments and geographic segments) based on Compustat Segment information.
UE_{t+1}	(IBES Actual Earnings-IBES Consensus Analyst Forecast based on the median of forecasts made 90 days prior to the earnings announcement)/Absolute Value of IBES Actual Earnings. This is measured as quarterly earnings surprise in subsequent year t+1 when goodwill impairment is announced in quarters 1, 2, and 3, and as yearly earnings surprise in subsequent year when goodwill impairment is announced in quarter 4.
UE_t	(IBES Actual annual Earnings-IBES Consensus Analyst Forecast based on the median of forecasts of annual earnings made 90 days prior to the earnings announcement)/Absolute Value of IBES Actual Earnings. This is measured at end of fiscal year.
UNGWF1_OLS	Unexpected goodwill impairment estimated using OLS model (Appendix C).
UNGWF1_TOBIT	Unexpected goodwill impairment estimated using TOBIT model (Appendix C).
VNA_t	Asset verifiability, as defined in Ramanna and Watts (2012). Asset verifiability is (CASH+All Investments and Advances-Debt-Preferred Stock)/(Total Assets-Total Liabilities).

Appendix B
Estimating Predicted Impairment Probability for Sample A

This table presents initial probit models of $Impairment_{t+1}$ determinants for all firms in Compustat with available data in fiscal years 2010 through 2013. It estimates determinants of the presence of impairment charge in year t+1. Reported *p*-values are based on t-statistics estimated using standard errors clustered on firm and year. All continuous variables are winsorized at the 1st and 99th percentiles. *, **, *** denote two-tail significance levels at 0.1, 0.05, and 0.01, respectively. All variables are defined in the Appendix A. Sample selection procedure follows Panel A of Table 1. We start from firms that are incorporated in the US, with non-missing goodwill amount on the balance sheets, with above median goodwill to total assets ratio and with non-missing financial variables in the equation below.

$$Prob\ (IMPAIR_{t+1} = 1) = \alpha_0 + \alpha_1 * ROA_t + \alpha_2 * FIRM\ SIZE_t + \alpha_3 * BM_t + \alpha_4 * BHAR_2 + \alpha_5 * BGI_t + \alpha_6 * GOODWILL_t + \alpha_7 * INFOASY_t + \alpha_8 * RD\_INT_t + \alpha_9 * EXCHG + \alpha_{10} * ASSETPRC_t + \alpha_{11} * SEGMENT_t + \alpha_{12} * VNA_t + \alpha_{13} * LEV_t + \alpha_{14} * LITIGATE_t + \alpha_{15} * BIG4_t + \alpha_{16} * FIXED\ ASSETS_t + \alpha_{17} * Age_t + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + e_t \quad (1)$$

DEPVAR = Prob (IMPAIR$_{t+1}$)	***Coefficient***	***p-value***
Intercept	-1.568***	*<0.00*
ROA	-1.197***	*<0.00*
FIRM_SIZE	0.058***	*0.00*
BM	0.524***	*<0.00*
BHAR	-0.414***	*<.01*
BGI	0.063	*0.60*
GOODWILL	0.168	*0.43*
INFOASY	0.025	*0.76*
RD_INT	-0.719**	*0.05*
EXCHG	-0.040	*0.52*
ASSETPRC	-0.238	*0.04*
SEGMENT	0.123**	*0.01*
VNA	-0.028	*0.15*
LEV	0.091	*0.11*
LITIGATE	-0.121	*0.19*
BIG4	0.025	*0.76*
FIXED_ASSETS	-0.339	*0.12*
AGE	-0.025	*0.46*
Year fixed effects	Yes	
Industry fixed effects	Yes	
Max Scaled R^2	12.38%	
N	4,544	

Appendix C
Estimating Unexpected Impairment

This table presents ordinary least square (OLS) and TOBIT estimations of unexpected goodwill amount to be utilized in our stock returns tests (equation 3). Reported *p*-values are based on t-statistics estimated using standard errors clustered on firm and year. All continuous variables are winsorized at the 1st and 99th percentiles. *, **, *** denote two-tail significance levels at 0.1, 0.05, and 0.01, respectively. All variables are defined in the Appendix A. The sample includes all Compustat firms with non-missing financial variables.

$$Prob\ (IMPAMT_{t+1} = 1) = \alpha_0 + \alpha_1 * ROA_t + \alpha_2 * FIRM\ SIZE_t + \alpha_3 * BM_t + \alpha_4 * BHAR_2 + \alpha_5 * BGI_t + \alpha_6 * GOODWILL_t + \alpha_7 * INFOASY_t + \alpha_8 * RD\_INT_t + \alpha_9 * EXCHG + \alpha_{10} * ASSETPRC_t + \alpha_{11} * SEGMENT_t + \alpha_{12} * VNA_t + \alpha_{13} * LEV_t + \alpha_{14} * LITIGATE_t + \alpha_{15} * BIG4_t + \alpha_{16} * FIXED\ ASSETS_t + \alpha_{17} * Age_t + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + e_t \quad (1)$$

DEPVAR=IMPAMT$_t$	***OLS***		***TOBIT***	
Variables	*Coefficient*	*p-value*	*Coefficient*	*p-value*
Intercept	-0.005***	*0.00*	0.127***	*0.01*
ROA$_t$	0.001**	*0.09*	0.010***	*0.00*
FIRM SIZE$_t$	0.000***	*0.00*	0.000***	*0.00*
BM$_t$	-0.000	*0.32*	-0.004*	*0.06*
BHAR$_t$	0.002***	*0.00*	0.023***	*0.00*
BGI$_t$	-0.002***	*0.00*	-0.025***	*0.00*
GOODWILL$_t$	-0.024***	*0.00*	-0.136***	*0.00*
INFOASY$_t$	0.000	*0.74*	0.001	*0.77*
RD_INT$_t$	0.000***	*0.01*	0.009***	*0.00*
EXCHG	0.001**	*0.03*	-0.007***	*0.00*
ASSETPRC$_t$	-0.000	*0.70*	0.002	*0.73*
SEGMENT$_t$	-0.001**	*0.02*	-0.011***	*0.00*
VNA$_t$	0.000**	*0.04*	0.001*	*0.10*
LEV$_t$	0.000**	*0.01*	-0.001	*0.32*
LITIGATE$_t$	0.002**	*0.02*	0.008*	*0.09*
BIG 4$_t$	-0.000	*0.49*	-0.005	*0.12*
FIXED ASSETS$_t$	0.001**	*0.04*	0.023***	*0.00*
AGE$_t$	0.000**	*0.04*	0.003**	*0.03*
Industry fixed effects	Yes		Yes	
Year fixed effects	Yes		Yes	
# of obs	17,380		17,380	
Year fixed effects	Yes		Yes	
Industry fixed effects	Yes		Yes	
R^2	6.53%		34.13%	

Table 1:
Summary Statistics—Sample A

This table reports the sample selection screens applied to obtain Sample A (panel A) and annual distribution for the sample (panel B). Panel C reports the distribution of the types of disclosure about the excess of the fair value over carrying value of the reporting unit. Panel D reports the distribution of the binary variable *SUSPECT*, where *SUSPECT* is equal to one if a firms reports the excess of fair value over carrying value of the reporting unit where goodwill resides is less than 10% or very close to carrying value; and zero otherwise.

Panel A: Sample Selection

Compustat firms that are incorporated in US; with non-missing goodwill on balance sheets; with above median goodwill/assets ratio during 2010-2013	5,154
Exclude firm years without variables necessary to estimate regression models	(610)
Total firm years used to generate implied subsequent year goodwill impairment	4,544
Exclude firm years with subsequent year goodwill impairment probability below top 25%	(3,408)
Firm years with subsequent year goodwill impairment probability in top 25%	1,136
Exclude firm years without availability of 10-Ks; verification the accuracy of reported goodwill impairment by Compustat; firm years with goodwill impairment in current year	345
Final Sample A	**791**

Panel B: Annual Distribution

Fiscal Year	***N***	***%***
2010	215	27.18
2011	226	28.57
2012	196	24.78
2013	154	19.47
	791	**100**

Panel C: Slack Type Distribution

Code	***N***	***%***	***Reporting Type***
0	290	36.66	no disclosure
1	97	12.26	exceed
2	76	9.61	<10%
3	109	13.78	<20%, >10%
4	68	8.60	substantial
5	84	10.62	>20%
6	50	6.32	passing qualitative test
7	17	2.15	very close to carrying value

Panel D: SUSPECT Type Distribution

Code	***N***	***%***
0 (code=0,1,3,4,5,6)	698	88.24
1 (code=2, 7)	93	11.76

Panel E: Descriptive Statistics—Sample A

Variable	Mean	STD	Q1	Median	Q3
$IMPAIR_{t+1}$	0.201	0.401	0.000	0.000	0.000
$SUSPECT_t$	0.118	0.322	0.000	0.000	0.000
ROA_t	0.003	0.120	-0.003	0.026	0.052
$BHAR_t$	-0.070	0.303	-0.259	-0.072	0.113
RD_INT_t	0.029	0.069	0.000	0.000	0.021
AGE_t	2.733	0.905	2.079	2.773	3.367
$GOODWILL_t$	0.268	0.140	0.152	0.232	0.359
BGI_t	0.331	0.471	0.000	0.000	1.000
$FIRM\_SIZE_t$	6.859	2.120	5.538	6.868	8.288
BM_t	0.887	0.485	0.559	0.794	1.099
$FIXED\_ASSETS_t$	0.197	0.169	0.065	0.135	0.291
LEV_t	0.636	1.015	0.162	0.345	0.704
$LITIGATE_t$	0.148	0.355	0.000	0.000	0.000
$SEGMENT_t$	0.756	0.616	0.000	0.693	1.386
$BIG5_t$	0.817	0.387	1.000	1.000	1.000
$EXCHNAGE_t$	0.365	0.481	0.000	0.000	1.000
VNA_t	-0.687	1.624	-0.696	-0.295	0.003
$INFOASY_t$	0.056	0.229	0.000	0.000	0.000
$ASSETPRC_t$	0.224	0.224	0.032	0.149	0.363

Table 2:
SUSPECT Slack and Future Impairment Prediction—Sample A

This table reports the results of the probit regression of the likelihood of year t+1 impairment (Columns (1) for Equation (2a) and Columns (2) for Equation (2b)). The dependent variable is *IMPAIR*, which takes the value of one if the firm incurs goodwill impairment in year t+1. The main independent variable is *SUSPECT*, where *SUSPECT* is equal to one if a firms reports the excess of fair value over carrying value of the reporting unit where goodwill resides is less than 10% or very close to carrying value; and zero otherwise. All other control variables are defined in Appendix A. All continuous variables are winsorized at the 1st and 99th percentiles, and the standard errors are cluster adjusted by firm and year. *, **, *** denote significance of 0.1, 0.05 and 0.01 at the two-tailed level.

(1) $Prob\ (IMPAIR_{t+1}=1)_{\ t} = \beta_0 + \beta_1 * SUSPECT_t + \beta_2 * PGI_t$ *(2a)*

(2) $Prob\ (IMPAIR_{t+1}=1)_{\ t} = \beta_0 + \beta_1 * SUSPECT_t + + \beta_2 * ROA_t + \beta_3 * FIRM\ SIZE_t + \beta_4 * BM_t + \beta_5 * BHAR_2 + \beta_6 * BGI_t + \beta_7 * GOODWILL_t + \beta_8 * INFOASY_t + \beta_9 * RD\_INT_t + \beta_{10} * EXCHG + \beta_{11} * ASSETPRC_t + \beta_{12} * SEGMENT_t + \beta_{13} * VNA_t + \beta_{14} * LEV_t + \beta_{15} * LITIGATE_t + \beta_{16} * BIG4_t + \beta_{17} * FIXED\ ASSETS_t + \beta_{18} * Age_t + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + e_t$ *(2b)*

DEPVAR: IMPAIR$_{t+1}$	***(1)***		***(2)***	
	Coef	*p-value*	*Coef*	*p-value*
Intercept	-1.611***	*0.00*	-1.603**	*0.04*
SUSPECT$_t$	**0.610*** **	***0.00***	**0.593*** **	***0.00***
PGI$_t$	1.687***	*0.00*		
ROA$_t$			0.925	*0.24*
BHAR$_t$			-0.560**	*0.01*
RD_INT$_t$			-0.144	*0.90*
AGE$_t$			0.080	*0.28*
GOODWILL$_t$			-0.194	*0.70*
BGI$_t$			0.364*	*0.06*
FIRM_SIZE$_t$			0.055	*0.29*
BM$_t$			-0.026	*0.90*
FIXED_ASSETS$_t$			-1.011**	*0.06*
LEV$_t$			0.046	*0.56*
LITIGATE$_t$			-0.059	*0.80*
SEGMENT$_t$			0.067	*0.53*
BIG4$_t$			-0.124	*0.48*
EXCHANGE$_t$			0.012	*0.93*
VNA$_t$			-0.039	*0.48*
INFOASY$_t$			-0.317	*0.25*
ASSETPRC$_t$			-0.250	*0.36*
Industry Fixed Effects	Yes		Yes	
Year Fixed Effects	Yes		Yes	
Max Rescaled R^2	14.13%		17.63%	
N	791		791	

Table 3:
Sample B (Firms Reporting Impairments in Year t+1) Summary Statistics

This table reports the sample selection screens applied to obtain Sample B (panel A) and annual distribution for the sample (panel B). Panel C reports the distribution of the types of disclosure about the excess of the fair value over carrying value of the reporting unit. Panel D reports the distribution of the binary variable *SUSPECT*, where *SUSPECT* is equal to one if a firms reports the excess of fair value over carrying value of the reporting unit where goodwill resides is less than 10% or very close to carrying value; and zero otherwise. Panel E reports summary statistics of two subgroups, in which *SUSPECT* = 1 and *SUSPECT* = 0.

Panel A: Sample Selection

Compustat firms that are incorporated in US; with non-missing goodwill in subsequent year during 2010-2013	1,431
Exclude firm years with missing PERMNO from CRSP in subsequent year	(248)
Total initial firm years	1,183
Exclude firm years with no availability of 10-Ks; incorrect reported goodwill impairment by Compustat; firm years with goodwill impairment in current year	571
Total initial firm years	612
Exclude firm years with no availability of announcement days stock returns or missing control variables to conduct return analysis	(113)
Final Sample B	**499**

Panel B: Annual Distribution

Fiscal Year	***N***	***%***
2010	127	25.45
2011	135	27.05
2012	117	23.45
2013	120	24.05
	498	**100**

Panel C: Slack Disclosure Type Distribution

Code	***N***	***%***	***Reporting Type***
0	191	38.28	no impairment
1	57	11.42	exceed
2	60	12.02	<10%
3	70	14.03	<20%, >10%
4	38	7.62	substantial
5	44	8.82	>20%
6	21	4.21	passing qualitative test
7	18	3.61	very close to carrying value

Panel D: *SUSPECT* Type Distribution

Code	***N***	***%***
0 (code=0,1,3,4,5,6)	421	84.37
1 (code=2, 7)	78	15.63

Panel E: Comparative Summary Statistics fur SUSPECT and non-SUSPECT observations

	SUSPECT=1		**SUSPECT=0**	
Variable	Mean	Median	Mean	Median
CAR3	-0.005	-0.010	-0.021	-0.012
CAR5	-0.008	-0.012	-0.023	-0.014
IMPAMT$_{t+1}$	-0.059	-0.035	-0.050	-0.020
UNGWF1_TOBIT	-0.047	-0.035	-0.039	-0.020
UNGWF1_OLS	-0.040	-0.031	-0.034	-0.015
SURP	0.126	0.045	0.054	0.015
RUNUP	-0.016	0.001	-0.004	-0.004
FIRM_SIZE	7.059	6.826	6.845	6.775
BM	0.872	0.747	0.811	0.653

Table 4:
The Effect of Slack Disclosures on Stock Returns around Year t+1 Impairment Announcements

This table summarizes the OLS estimation of Equation (3), i.e. examining the effect of year t slack disclosure and stock market reaction to year t+1 impairment announcements. In columns (1) and (3) is the unexpected impairment amount estimated from the OLS Model of expected impairment (estimates provided in Appendix C). In columns (2) and (4) is the unexpected impairment amount estimated from the TOBIT Model of expected impairment (estimates provided in Appendix C). *P values* are reported below coefficients. All continuous variables are winsorized at the 1st and 99th percentiles, and the standard errors are cluster adjusted by firm and year. *, **, *** denote significance of 0.1, 0.05 and 0.01 at two-tailed level.

$$CARX_{t+1} = \gamma_0 + \gamma_1 * UNGWF1\_X_{t+1} + \gamma_2 * UE_{t+1} + \gamma_3 * SUSPECT_t + \gamma_4 * UNGWF1\_X_{t+1} * SUSPECT_t + \gamma_5 * RUNUP_{t+1} + \gamma_6 * LMV_{+1} + \gamma_7 * BM_{t+1} + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + e_t \quad (3)$$

Under columns (1) and (2), we report the results based on 3-day abnormal stock returns around earnings announcement dates, accumulating from one day before earnings announcement date. Under columns (3) and (4), we report the results based on 5-day abnormal stock returns around earnings announcement dates, accumulating from one day before earnings announcement date.

	Pred. Sign	***(1)***	***(2)***	***(3)***	***(4)***
		DEPVAR: CAR3$_{t+1}$		*DEPVAR: CAR5$_{t+1}$*	
Intercept	?	-0.046	-0.047	-0.059*	-0.059*
		0.14	*0.14*	*0.07*	*0.07*
UNGWF1_OLS$_{t+1}$	+	0.371***		0.325*	
		0.01		*0.07*	
UNGWF1_TOBIT$_{t+1}$	+		0.344***		0.298*
			0.01		*0.08*
SUSPECT$_t$	?	-0.009	-0.009	-0.005	-0.007
		0.64	*0.57*	*0.79*	*0.72*
UNGWF1_OLS$_{t+1}$*SUSPECT$_t$	**-**	**-0.620****		**-0.523***	
		0.03		***0.10***	
UNGWF1_TOBIT$_{t+1}$*SUSPECT$_t$	**-**		**-0.584****		**-0.495**
			0.04		***0.11***
UE$_{t+1}$	+	0.020***	0.020***	0.023***	0.024***
		0.01	*0.01*	*0.01*	*0.01*
RUNUP$_{t+1}$	?	-0.089	-0.089	-0.086	-0.086
		0.06	*0.06*	*0.14*	*0.14*
FIRM SIZE$_{t+1}$	?	0.002	0.002	0.002	0.002
		0.55	*0.51*	*0.76*	*0.81*
BM $_{t+1}$	?	0.010	0.010	0.010	0.013
		0.38	*0.36*	*0.44*	*0.27*
INDUSTRY FIXED EFFECTS		Yes	Yes	Yes	Yes
YEAR FIXED EFFECTS		Yes	Yes	Yes	Yes
R^2		16.31%	15.22%	14.90%	13.59%
F-test of *UNGWF1+* ***UNGWF1*SUSPECT***		0.35	0.52	0.22	0.27
Adj. R^2		14.84%	14.76%	14.90%	12.91%
N		499	499	499	499

Table 5:
Probability of Downward Earnings Forecast Revisions after Slack Disclosures

This table summarizes the probit estimation of Equations (4a) and (4b), i.e. examining the relation between slack disclosure and likelihood of downward revision of analyst forecasts for year t (Columns (1) for Equation (4a) and Columns (2) for Equation (4b)). All continuous variables are winsorized at the 1st and 99th percentiles, and the standard errors are cluster adjusted by firm and year. *, **, *** denote significance of 0.1, 0.05 and 0.01 at two-tailed level.

$$Prob\ (NEG\_REVISION_{t+1} = 1) = \delta_0 + \delta_1 * SUSPECT_t + \delta_2 * UE_t + \delta_3 * LOGNA_t + \delta_4 * PGI_t + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + e_t \quad (4a)$$

$$Prob\ (NEG\_REVISION_{t+1} = 1) = \delta_0 + \delta_1 * SUSPECT_t + \delta_2 * UE_t + \delta_3 * LOGNA_t + \delta_4 * ROA_t + \delta_5 * FIRM\ SIZE_t + \delta_6 * BM_t + \delta_7 * BHAR_t + \delta_8 * BGI_t + \delta_9 * GOODWILL_t + \delta_{10} * INFOASY_t + \delta_{11} * RD\_INT_t + \delta_{12} * EXCHG_t + \delta_{12} * ASSETPRC_t + \delta_{14} * SEGMENT_t + \delta_{15} * VNA_t + \delta_{16} * LEV_t + \delta_{17} * LITIGATE_t + \delta_{18} * BIG4_t + \delta_{19} * FIXED\ ASSETS_t + \delta_{20} * AGE_t + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + e_t \quad (4b)$$

DEPVAR: IMPAIR$_{t+1}$	***(1)***		***(2)***	
	Model (4a)		Model (4b)	
	Coef.	*P-value*	Coef	*P-value*
Intercept	0.914**	*0.03*	0.887	*0.13*
SUSPECT$_t$	**0.383****	***0.07***	**0.295**	***0.19***
UE	-0.583***	*0.01*	-0.636***	*0.01*
LOGNA	-0.089	*0.22*	0.171	*0.17*
PGI$_t$	0.422	*0.83*		
ROA$_t$			-0.078	*0.93*
FIRM_SIZE$_t$			-0.151**	*0.04*
BM$_t$			0.480	*0.16*
BHAR$_t$			-0.108	*0.65*
BGI$_t$			-0.274	*0.33*
GOODWILL$_t$			0.918	*0.13*
INFOASY$_t$			0.205	*0.56*
RD_INT$_t$			-1.734	*0.15*
EXCHG$_t$			0.214	*0.20*
ASSETPRC$_t$			-0.139	*0.66*
SEGMENT$_t$			-0.145	*0.23*
VNA$_t$			0.031	*0.62*
LEV$_t$			-0.001	*0.99*
LITIGATE$_t$			0.194	*0.53*
BIG4$_t$			-0.094	*0.65*
FIXED_ASSETS$_t$			0.587	*0.30*
AGE$_t$			0.136	*0.15*
Industry Fixed Effects	Yes		Yes	
Year Fixed Effects	Yes		Yes	
Max Rescaled R^2	20.66%		26.65%	
N	486		486	

Table 6:
Probability of Meeting-or-Beating Analyst Expectations as a Function of Slack Disclosures in Sample A

This table summarizes the probit estimation of Equation (5), i.e. examining the relation between SUSPECT slack disclosure and likelihood of meeting-or-beating analyst expectations. All continuous variables are winsorized at the 1st and 99th percentiles, and the standard errors are cluster adjusted by firm and year. *, **, *** denote significance of 0.1, 0.05 and 0.01 at two-tailed level.

$$Prob\ (MBE_t = 1) = \lambda_0 + \lambda_1 * SUSPECT_t + \lambda_2 * LMV_t + \lambda_3 * BM_t + \lambda_4 * LOSS_t + \lambda_5 * ROA_t + \lambda_6 * SALEGR_t + e_t$$

DEPVAR: Prob (MBE_t=1)		
	Coef.	*p-value*
Intercept	0.356	*0.63*
$SUSPECT_t$	**-0.394****	***0.03***
LMV	-0.009	*0.85*
BM	-0.204	*0.35*
LOSS	0.792***	*0.00*
ROA_t	0.063	*0.96*
SALEGR	-0.005	*0.86*
INDUSTRY FIXED EFFECTS	Yes	
YEAR FIXED EFFECTS	Yes	
Max Rescaled R^2	22.69%	